U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4, SCIENCE and ECOSYSTEM SUPPORT DIVISION
ATHENS, GEORGIA 30605-2700

4SESD-EIB

June 04, 2001

MEMORANDUM

SUBJECT: Palmetto Vermiculite, Woodruff, SC
Sampling Work Plan
SESD Project Number 01-0812.

FROM: Kevin Simmons, Life Scientist KWS
Enforcement Section

THRU: John S Hall, Chief
Enforcement Section

TO: Carter Williamson
On-Scene Coordinator
Emergency Response and Removal Branch

Attached is the work plan for the soil and vermiculite ore sampling investigation at the Palmetto Vermiculite site in Woodruff, SC.

Science and Ecosystem Support Division (SESD)
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Athens, GA 30605

QUALITY ASSURANCE PROJECT PLAN FOR THE PALMETTO VERMICULITE SITE WOODRUFF, SOUTH CAROLINA

SESD Project Leader: Kevin Simmons
Science and Ecosystems Support Division
SESD Project No. 01-0812

United States Environmental Protection Agency
June, 2001

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1.0 INTRODUCTION

During the week of June 4, 2001, the USEPA Region 4, Science and Ecosystem Support Division (SESD) will conduct a field investigation at the site of Palmetto Vermiculite, Woodruff, SC. There is concern that operations at the location involve vermiculite which may contain asbestos. The investigation was requested by the USEPA, Region 4, Emergency Response and Removal Branch to determine the presence or absence of asbestos in the surface soil and vermiculite ore at the site.

This Quality Assurance Project Plan (QAPP) for conducting the field investigation at the Scotts Company site was developed by the United States Environmental Protection Agency (EPA), Region 4. ***EPA QA/G-5, EPA Guidance for QAPPs*** was followed during the development of the QAPP.

Data will be collected to determine the presence or absence of asbestos in the surface soil and vermiculite ore.

1.1 Background/Site Location

The Palmetto Vermiculite site is located on 13101 Hwy 221 South, Woodruff, SC. Vermiculite is exfoliated during operations at the site.

1.2 Current Field Investigation

As a part of this investigation, SESD intends to sample the surface soil from the area near where the exfoliation process is conducted and in the vicinity where raw ore is stored. Additionally, a sample of the raw ore will be collected. Final locations will be determined during the investigation. All locations will be documented. Property owners of the sampling locations will be contacted for access approval prior to sampling activities.

2.0 SAMPLING/DATA QUALITY OBJECTIVES (DQOs)

The most important aspect of the investigation is to ensure that the quality of data produced supports the project objectives. Refer to the following table for the DQO process for this investigation.

Step	DQO	Vermiculite/Asbestos Investigation
1	State the Problem	Operations at this location involve vermiculite which may contain asbestos
2	Identify the Decision	Determine the presence or absence of asbestos in the soils and ore sampled
3	Identify Inputs to the Decision	Asbestos analyses of soil and ore samples. Asbestos analyses will be conducted in accordance with ***Superfund Method for the Determination of Releasable Asbestos in Soils and Bulk Materials, Interim Version***. (Revised MDL Limits)
4	Define the Study Boundaries	WR Grace property areas where exfoliation process is conducted and vermiculite ore is stored.
5	Develop a Decision Rule	If asbestos is confirmed at the site, further action to define the extent of the contamination and possible removal actions will be determined by the Emergency Response and Removal Branch.
6	Specify Limits on Decision Errors	Not applicable, statistical sampling is not anticipated
7	Optimize the Design for Obtaining Data	This sampling design is based on the judgement of the investigator(s) and does not result in a sample that reflects the average characteristics of an entire matrix. Information obtained during the site reconnaissance and observations made during the on-site sampling investigation will dictate the sample locations. This sampling is also call authoritative sampling, judgmental or directed sampling, and is considered non-probabilistic. Directed sampling may focus on "worst case" conditions in a matrix. Sampling and sample handling will be in accordance with U.S. EPA, Region 4, *Environmental Investigations Standard Operating Procedures and Quality Assurance Manual*. EPA. May, 1996 (EISOPQAM).

3.0 INVESTIGATION MANAGEMENT PLAN

3.1 Field Project Responsibilities

The overall field investigation/sampling phase of the project and any field decisions will be the responsibility of the Field Project Leader. The Field Project Leader is responsible for the following field activities:

- Ensure that all field activities are communicated and coordinated with Emergency Response and Removal Branch staff.
- Monitoring the overall field project quality control.
- Coordinating field scheduling of work with other Section and Division activities.
- Overseeing and managing field technical resources including non-sampling field activities.
- Monitoring health and safety of the sampling and investigation personnel.
- Coordinating sample analyses with the laboratory.

Following is a partial list of EPA personnel that will be involved in the field investigation and their responsibilities:

• Kevin Simmons	Field Project Leader
• Art Masters	Safety Officer/Sampler
• Dan Thornton	US EPA HQ
• Carter Williamson	On-Scene Coordinator

All field investigators have the required safety training, and specific knowledge and expertise of sample collection and safety techniques in accordance with the EISOPQAM.

3.2 Site Control and Access

Access to sampling areas will be obtained from the property owners by the On-Scene Coordinator prior to commencement of sampling activities. If refused access to a location, investigation personnel will record the entry refusal in the field log book and immediately leave the property until such time as permission or authority to sample can be obtained.

3.3 Field Vehicles

During the investigation, field vehicles will be located such that they do not interrupt the day-to-day activities that are conducted at residential or other properties. Each field vehicle will maintain a copy of the Field Health and Safety Plan during all investigation activities.

3.4 Sample Collection and Handling Procedures

All samples will be collected, handled, and documented in accordance with the EISOPQAM. A copy of the manual, in addition to the Field Health and Safety Plan, will be maintained by the field project leader for reference during all phases of the field sampling activities. If any deviations in sampling procedures are used, these deviations will be recorded in the field log books.

3.5 Chain of Custody

All chain-of-custody and record keeping procedures will be in accordance with the EISOPQAM.

3.6 Station and Sample Identification

Sample identification numbers will be assigned using the following format:

AABBBCC, where:

AA Two letter code (PB) to identify the samples

BBB A three digit code (assigned sequentially - ie. 001, 002, etc.) to designate the particular sample number.

CC SS To designate as surface soil sample

VO To designate vermiculite ore sample

3.7 Site Mapping/Surveying/GIS

All sample locations will be described in the field log book.

3.8 Field Sampling Equipment and Cleaning Procedures

All sampling equipment will be cleaned prior to use in accordance with the EISOPQAM. If equipment decontamination is necessary in the field, it will be conducted in accordance with the EISOPQAM procedures. It is not anticipated that a routine decontamination area will be required.

3.9 Field Instrumentation

The use of field instrumentation is not anticipated at this site.

3.10 Sample Containers

Samples will be double bagged in sealable one-gallon plastic bags for shipment. No preservatives or holding times are specified.

3.11 Investigation and Report Preparation Schedule

The field investigation is scheduled to be conducted during the week of June 04, 2001.

It is estimated that analysis will be completed by July 20, 2001. (This provides a 45 day turnaround).

The final report will be available on August 20, 2001.

4.0 QUALITY ASSURANCE

Quality assurance (QA) procedures begin in the planning stage and continue through sample collection, analyses, reporting and final review. Methods that will be used to ensure data quality are discussed below.

4.1 Organization and Responsibilities

The field project leader has overall responsibility for field QA. All laboratory analyses will be conducted by EMSL, Incorporated of New Jersey.

4.2 Sample Collection

All samples will be collected in accordance with the EISOPQAM (EPA May 1996). The QA/QC procedures described in this manual will insure that appropriate samples are collected from the various media investigated. Section 5 of this work plan describes the sampling strategies and rationale for the investigation.

4.2.1 Field QA/QC Samples

Sample representativeness is not generally an issue with an authoritative sampling designs and duplicate samples are not normally collected; however duplicate samples may be collected during the investigation.

4.3 Analytical Procedures

All analyses for asbestos will be conducted in accordance with the ***Superfund Method for the Determination of Releasable Asbestos in Soils and Bulk Materials, Interim Version (Revised MDL Limits).*** A normal 45 day laboratory turnaround time has been requested for all analyses.

4.4 Audits

Independent laboratory audits may be conducted by the Region 4, QA Officer or his representative(s). Any problems identified during these audits will be addressed in a memo to the Field Project Leader.

5.0 SAMPLING STRATEGIES AND RATIONALE

The exact number and location of the surface soil and vermiculite ore samples will be determined in the field after consultation with the Carter Williamson, US EPA OSC and Dan Thornton from EPA HQ. Data from these samples will be used to determine the presence or absence of asbestos.

5.1 Sample Analysis

Samples of surface soil will be analyzed in accordance with the ***Superfund Method for the Determination of Releasable Asbestos in Soils and Bulk Materials, Interim Version (Revised MDL Limits)***. Following are the types and number of samples anticipated.

Sample Description Type of Sample	Anticipated Number of Samples Environmental	 QA/QC
Surface Soil	4	--
Vermiculite Ore	4	--
Subtotal	8	0
Total	8	

A normal 45 day laboratory turnaround time has been requested for all analyses.

5.2 Data Validation/Usability

The USEPA Region 4, Office of Quality Assurance and Data Integration (OQADI) will perform a data review and validation after the data is received from the laboratory. The field project leader will review the data report to determine any data limitations and may consult with the OQADI staff to determine the impact of any qualified data on overall data usability for the project. Detailed guidance for data assessment may be found in Guidance for Data Quality Assessment, EPA QA/G-9. The OSC/Project Manager, in consultation with the field project leader, will make a determination if the data are acceptable for decision making at the site.

5.3 Data Management/Document Control

A final report will be written after project completion in accordance with the EISOPQAM. All environmental and QA data will be evaluated and data sheets will be attached to the report. Significant QA/QC issues regarding sample collection, handling, and analyses will be identified in the report. Results of any audits will also be included in the report. Project files will be maintained in accordance to the EISOPQAM. The field project leader will review the file at the conclusion of the project to ensure completeness.

6.0 REFERENCES

1. U.S. EPA, *EPAQA/G-5, Guidance for QAPPs,* EPA/600/R-98/018, February 1998.

2. U.S. EPA, Superfund Method for the Determination of Releasable Asbestos in Soils and Bulk materials, Interim Version.

3. U.S. EPA, Region 4, *Environmental Investigations Standard Operating Procedures and Quality Assurance Manual.* EPA. May, 1996.

4. U.S. EPA, *EPA QA/G-9, Guidance for Data Quality Assessment*, EPA/600/R-96//084, July 2000.